

WHAT IS CLAIMED IS:

1. A stream data processing apparatus for performing multiple steps of processing for stream data, comprising:
 - 5 a transmitting-end processing section for performing a process of one of the multiple steps of processing for data contained in the stream data, and transmitting the processed data;
 - 10 a receiving-end processing section for receiving data transmitted from the transmitting-end processing section, and performing a process of a next one of the multiple steps of processing for the received data;
 - 15 a control section for instructing a change of a subject of processing to the transmitting-end processing section and the receiving-end processing section;
 - 20 a data temporary storage section for temporarily storing the data transmitted from the transmitting-end processing section; an empty data storage section for erasing any data written thereto in response to a data write, and returning empty data in response to a data read; and
 - 25 a connection management section for allowing the data transmitted from the transmitting-end processing section to be received by the receiving-end processing section by performing a data write and a data read for the data temporary storage section and the empty data storage section,
- 25 wherein,

if a change of the subject of processing is instructed from the control section, the transmitting-end processing section and the receiving-end processing section output a transmitting-end clear request and a receiving-end clear request, respectively.

5 to the connection management section, and

the connection management section switches a write destination for the data transmitted from the transmitting-end processing section and a read source of data to be received by the receiving-end processing section depending on whether the

10 connection management section is in a normal operation state, a receiving-end clear wait state which exists after the transmitting-end clear request is received and until the receiving-end clear request is received, or a transmitting-end clear wait state which exists after the receiving-end clear request
15 is received and until the transmitting-end clear request is received.

2. The stream data processing apparatus according to claim 1, wherein the connection management section is operable
20 to:

select the data temporary storage section as the write destination and the read source in the normal operation state;

erase the data stored in the data temporary storage section if the transmitting-end clear request or the receiving-end
25 clear request is received in the normal operation state;

select the empty data storage section as the read source
in the receiving-end clear wait state; and
select the empty data storage section as the write
destination in the transmitting-end clear wait state.

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3. The stream data processing apparatus according to
claim 1, wherein the connection management section is operable
to:

select the data temporary storage section as the write
10 destination and the read source in the normal operation state;

erase the data stored in the data temporary storage
section if the receiving-end clear request is received in the normal
operation state;

select the empty data storage section as the write
15 destination in the transmitting-end clear wait state;

in the receiving-end clear wait state, regard as old
data any data that is stored in the data temporary storage section
when the transmitting-end clear request has been received, select
as the write destination a region in the data temporary storage
20 section where the old data is not stored, and select as the read
source a region in the data temporary storage section where the
old data is stored while the old data is present, and select the
empty data storage section as the read source once the old data
is no longer present; and

25 erase the old data if the receiving-end clear request

is received in the receiving-end clear wait state.

4. The stream data processing apparatus according to
claim 1, wherein the transmitting-end processing section and the
5 receiving-end processing section output the transmitting-end
clear request and the receiving-end clear request and perform
transmission and reception of data by using a data
transmission/reception section which provides a accessing
function to the connection management section.

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5. The stream data processing apparatus according to
claim 1, wherein the connection management section is structured
to be capable of selecting, if the data transmitted from the
transmitting-end processing section cannot be written to the data
15 temporary storage section, whether to perform a process of
immediately notifying an error to the transmitting-end processing
section, or a process of waiting until it becomes possible to write
data to the data temporary storage section and notifying to the
transmitting-end processing section a result of writing data to
20 the data temporary storage section.

6. The stream data processing apparatus according to
claim 1, wherein the connection management section is structured
to be capable of selecting, if data to be received by the
25 receiving-end processing section cannot be read from the data

temporary storage section, a process of immediately notifying an error to the receiving-end processing section, or a process of waiting until it becomes possible to read data from the data temporary storage section and notifying to the receiving-end processing section a result of reading data from the data temporary storage section.

7. The stream data processing apparatus according to claim 1, further comprising a data input section via which to input the stream data.

8. The stream data processing apparatus according to claim 7, wherein the data input section inputs the stream data from a removable recording medium.

9. The stream data processing apparatus according to claim 1, further comprising a data output section for outputting a result of performing the multiple steps of processing for the stream data.

10. The stream data processing apparatus according to claim 9, wherein the data output section outputs the result of performing the multiple steps of processing to a removable recording medium.